US-PAT-NO: 5682479

DOCUMENT-IDENTIFIER: US 5682479 A

TITLE: System and method for network exploration and access

---------- KWIC ---------

Detailed Description Text - DETX (85):

In a step 1112, once the packet has arrived at the target device, the target device writes configuration information to the packet. Where the target device is a router 204, the target router 204 writes configuration information from its configuration element 1012 to the packet. The configuration information provides information pertaining to the target router. Most important to network mapping, is information pertaining to the router identification, number and identity of ports 404 that target router 204 has. Additional information can include, without limitation, a **status of the ports** or edges (e.g., active, **failed,** etc.), link utilization information and performance information.

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US-PAT-NO: 6201809

DOCUMENT-IDENTIFIER: US 6201809 B1

TITLE: Port redundancy and backpressure translation table apparatus

---------- KWIC ---------

Brief Summary Text - BSTX (21):

For example, assume that a multicast stream of data is destined to output ports K, L and M. In addition, assume that output ports K and M have failed. It is desirable to divert the traffic originally destined to output ports K and M to a redundant backup output port. Ports R and S as selected as the redundant output ports for failed output ports K and M, respectively. The displacement of the bits to select both redundant ports can be performed simultaneously in accordance with the translation table.

Drawing Description Text - DRTX (6):

FIG. 4 is a diagram illustrating an example 8.times.8 translation table wherein a failed port is redirected to a redundant port.

Detailed Description Text - DETX (9):

When a particular bit is to be displaced, e.g., a port failure has occurred, its corresponding bit on the diagonal is set to `0` and another bit corresponding to the redundant port (the new position) is set to `1`. As an example, suppose bit M (corresponding to output port M) in the original routing tag is to be displaced to bit P (corresponding to redundant port P). Then the diversion of traffic is accomplished by clearing bit (M, M), i.e., setting the bit to `0`, in the translation table and setting bit (M, P) to `1`. Note that matrix entry indices are given in (row, column) format.

Detailed Description Text - DETX (18):

A diagram illustrating an example 8.times.8 translation table wherein a failed port is redirected to a redundant port is shown in FIG. 4. In this example, presented to illustrate the principles of the present invention, the

switch comprises 8 output ports as represented by the 8 bit original routing tag bitmap vector RT 60. In addition, the original backpressure information vector comprises an 8 bit vector BP 62. In this example, it is assumed that destination output port #2 failed and port #4 is used as a backup destination output port for the failed port #2.

FIG. 6

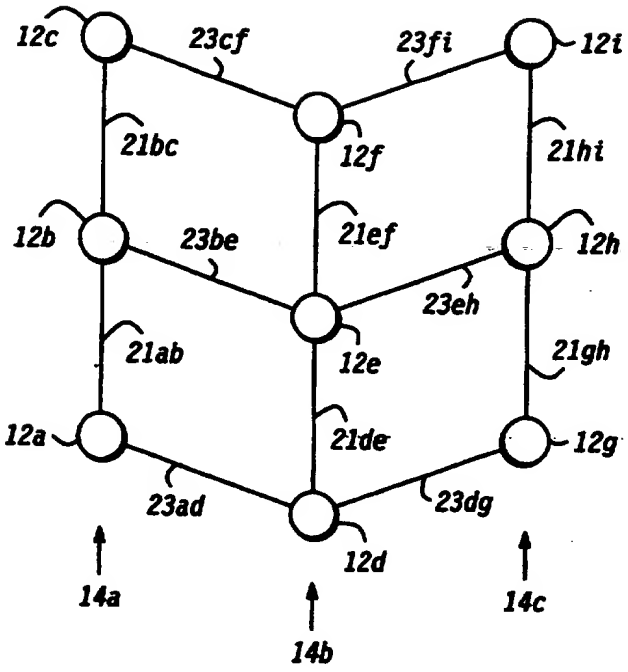
12c
23cf
23fi
12i
21bc
12f
21hi
12b
23be
21ef
12h
23eh
21ab
12e
21gh
12a
21de
12g
23ad
23dg
12d
14a
14b
14c

FIG. 7

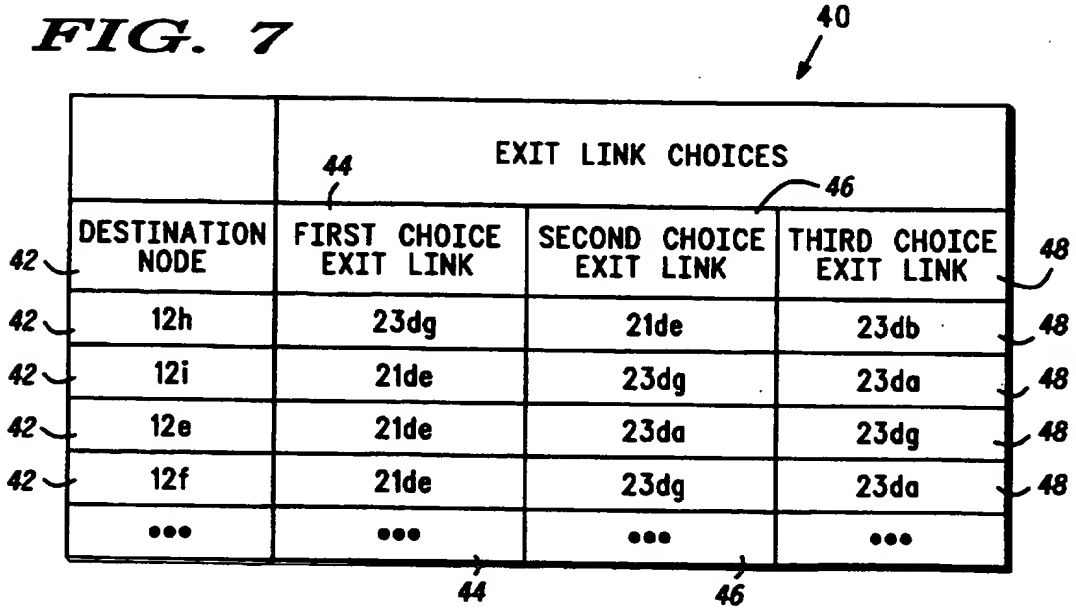
40
44
EXIT LINK CHOICES
46
42
DESTINATION NODE
FIRST CHOICE EXIT LINK
SECOND CHOICE EXIT LINK
THIRD CHOICE EXIT LINK
48
12h 23dg 21de 23db
12i 21de 23dg 23da
12e 21de 23da 23dg
12f 21de 23dg 23da
44
46

FIG. 18

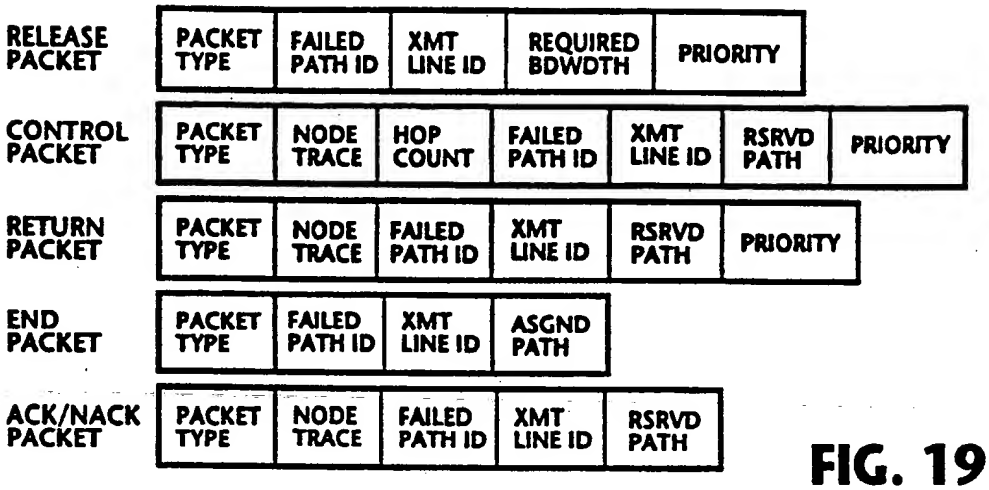

FIG. 19

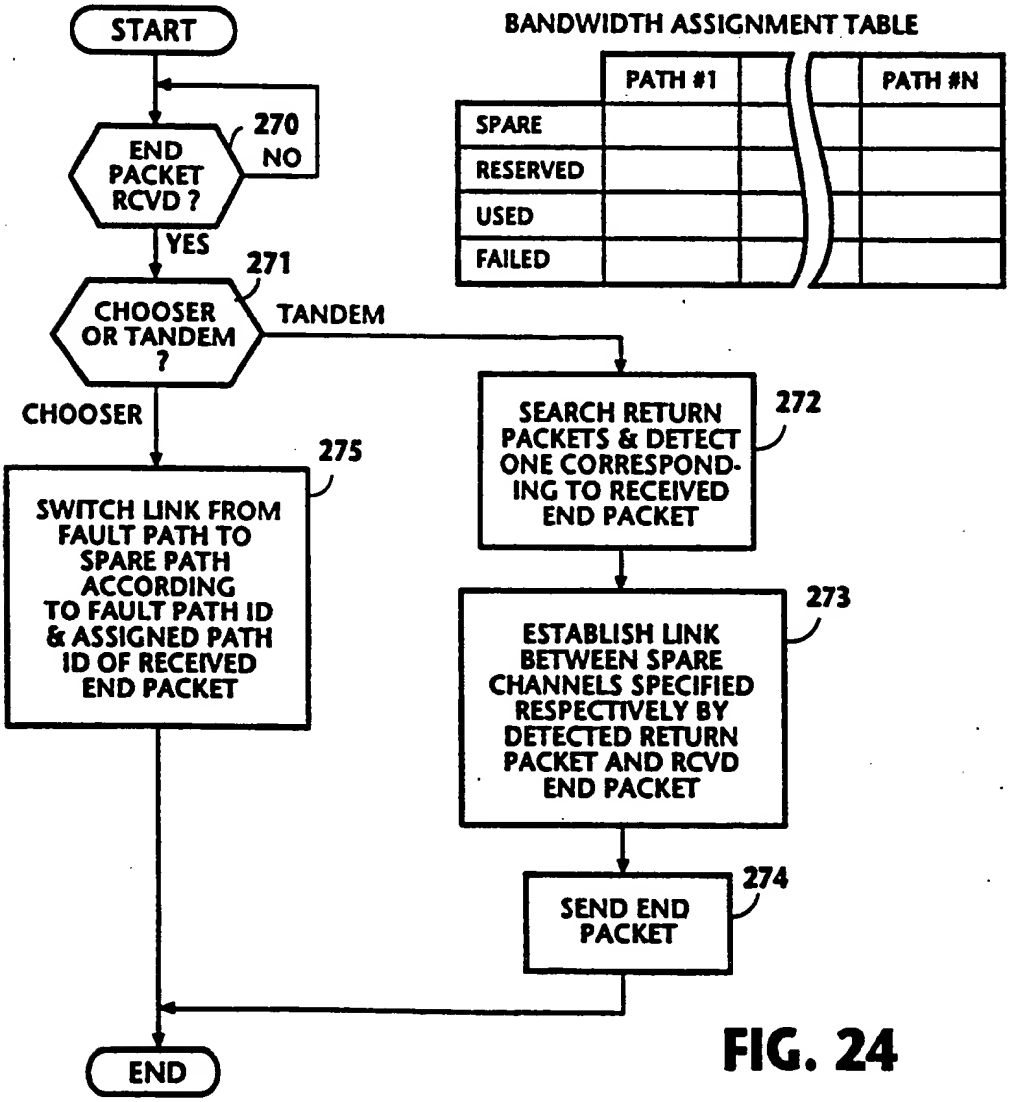

FIG. 24